Biotechnology and Bioengineering

INDEX TO VOLUME 92

ISSUES 1–7

October 2005–December 2005

Biotechnology and Bioengineering

Author Index to Volume 92

Abdullah, N.
—; Chase, H.A.: Removal of Poly-Histidine Fusion Tags From Recombinant Proteins Purified by Expanded Bed Adsorption, 501
Acker, J.P.
—; See Kohli, V., 889
Al-Rubeai, M.
—; See Veraitch, F.S., 589
Albrecht, D.
—; See Jürgen, B., 277
Allen, M.
—; See Ghose, S., 665
Alphand, V.
—; See Hilker, I., 702
Alves, M.M.
—; See Pereira, M.A., 15
Andersen, A.Z.
—; Lauritsen, F.R.; Olsen, L.F.: On-Line Monitoring of CO_2 Production in *Lactococcus lactis* During Physiological pH Decrease Using Membrane Inlet Mass Spectrometry With Dynamic pH Calibration, 740
Angepat, S.
—; Gorenflo, V.M.; Piret, J.M.: Accelerating Perfusion Process Optimization by Scanning Non-Steady-State Responses, 472
Arakawa, H.
—; See Ogawa, Y., 865
Autote, K.
—; See Warnock, D., 831
Baeza, J.A.
—; See Sin, G., 600
Bai, X.
—; See Warnock, D., 831
Bai, Y.
—; Yang, S.-T.: Biotransformation of *R*-2-Hydroxy-4-Phenylbutyric Acid by D-Lactate Dehydrogenase and *Candida boidinii* Cells Containing Formate Dehydrogenase Coimmobilized in a Fibrous Bed Bioreactor, 137
Banada, P.P.
—; See Yang, L., 685
Bani-Yaghoub, M.
—; Tremblay, R.; Voicu, R.; Mealing, G.; Monette, R.; Py, C.; Faid, K.; Sikorska, M.: Neurogenesis and Neuronal Communication on Micropatterned Neurochips, 336
Baptista, I.I.R.
—; See Emanuelsson, E.A.C., 843
Barabino, G.A.
—; See Bilgen, B., 907
Barken, K.B.
—; See Jürgen, B., 299
Bashir, R.
—; See Yang, L., 685
Basso, G.
—; See Spilimbergo, S., 447
Batorsky, A.
—; Liao, J.; Lund, A.W.; Plopper, G.E.; Stegemann, J.P.: Encapsulation of Adult Human Mesenchymal Stem Cells Within Collagen-Agarose Microenvironments, 492
Bayer, R.J.
—; See Warnock, D., 831
Beltrame, F.
—; Cancedda, R.; Canesi, B.; Crovace, A.; Mastrogiacomo, M.; Quarto, R.; Scaglione, S.; Valastro, C.; Viti, F.: A Simple Non Invasive Computerized Method for the Assessment of Bone Repair Within Osteoconductive Porous Bioceramic Grafts, 189
Beney, L.
—; See Mille, Y., 479
Benkovic, S.J.
—; See Naumann, T.A., 820
Bennett, G.N.
—; See Shalel-Levanon, S., 147
Berney, M.
—; See Looser, V., 69
Bertoloni, G.
—; See Spilimbergo, S., 447
Bertucco, A.
—; See Spilimbergo, S., 447
Betenbaugh, M.J.
—; See Kim, Y.K., 452
Betenbaugh, M.J.
—; See Krambeck, F.J., 711
Bhunia, A.K.
—; See Yang, L., 685
Bilgen, B.
—; Chang-Mateu, I.M.; Barabino, G.A.: Characterization of Mixing in a Novel Wavy-Walled Bioreactor for Tissue Engineering, 907
Bill, J.R.
—; See Boder, E.T., 485
Blackall, L.L.
—; See O'Sullivan, C.A., 871
Blanch, H.W.
—; See Voogt, J.N., 532
Bley, T.
—; See Fritsch, M., 635
Boder, E.T.
—; Bill, J.R.; Nields, A.W.; Marrack, P.C.; Kappler, J.W.: Yeast Surface Display of a Noncovalent MHC Class II Heterodimer Complexed With Antigenic Peptide, 485
Börje Lindström, E.
—; See Rzhepishevska, O.I., 559
Bratkovskaja, I.
—; See Kulys, J., 128
Breuer, M.
—; See Chen, A.K.-L., 183
Brooks, C.
—; See Ghose, S., 665
Brooks, R.P.
—; See Laska, M.E., 308
Burg, M.
—; See Schroeder, M., 920
Burrell, P.C.
—; See O'Sullivan, C.A., 871
Butz, J.A.
—; See Merritt, J., 519
Büchs, J.
—; See Samorski, M., 61
Cancedda, R.
—; See Beltrame, F., 189
Canesi, B.
—; See Beltrame, F., 189
Carrea, G.
—; See Secundo, F., 438
Carrera, J.
—; See Sin, G., 600
Cha, H.J.
—; See Kim, Y.K., 452
Cha, H.J.
—; See Seo, J.H., 166
Chang-Mateu, I.M.
—; See Bilgen, B., 907
Charles, P.T.
—; See Soto, C.M., 934
Chase, H.A.
—; See Abdullah, N., 501
Chatterjee, S.
—; See Yuki, Y., 803
Chen, A.K.-L.
—; Breuer, M.; Hauer, B.; Rogers, P.L.; Rosche, B.: pH Shift Enhancement of *Candida utilis* Pyruvate Decarboxylase Production, 183
Chen, C.-J.
—; See Hsu, S.-h., 579
Chen, C.-Y.
—; See Hsu, S.-h., 579
Chet, I.
—; See Zohar-Perez, C., 54
Choi, I.S.
—; See Park, J.P., 160
Chou, C.
—; See Gorenflo, V.M., 514
Chow, V.S.
—; See Gorenflo, V.M., 514
Chung, B.H.
—; See Park, J.P., 160
Cicek, N.
—; See Rezania, B., 900
Cimander, C.
—; See Johansson, L., 541
Clarke, W.P.
—; See O'Sullivan, C.A., 871
Clifford, J.S.
—; Legge, R.L.: Use of Water to Evaluate Hydrophobicity of Organically-Modified Xerogel Enzyme Supports, 231
Cramer, S.M.
—; See Ghose, S., 665
Crovace, A.
—; See Beltrame, F., 189

Da Silva, N.A.
—; See Pecota, D.C., 117
da Silva, T.L.
—; Reis, A.; Kent, C.A.; Roseiro, J.C.; Hewitt, C.J.: The Use of Multi-Parameter Flow Cytometry to Study the Impact of Limiting Substrate, Agitation Intensity, and Dilution Rate on Cell Aggregation During *Bacillus licheniformis* CCMI 1034 Aerobic Continuous Culture Fermentations, 568
Dasgupta, A.
—; Hughey, R.; Lancin, P.; Larue, L.; Moghe, P.V.: E-Cadherin Synergistically Induces Hepatospecific Phenotype and Maturation of Embryonic Stem Cells in Conjunction With Hepatotrophic Factors, 257
de los Reyes, F.L.
—; See Lou, I., 729
de Pablo, J.J.
—; See Nie, Y., 79
De Pauw, D.J.W.
—; See Sin, G., 600
Deshpande, R.
—; See Kamei, D.T., 748
Deshusses, M.A.
—; See Kan, E., 364
Devireddy, R.V.
—; See Thirumala, S., 372
Dias, J.M.L.
—; Serafim, L.S.; Lemos, P.C.; Reis, M.A.M.; Oliveira, R.: Mathematical Modelling of a Mixed Culture Cultivation Process for the Production of Polyhydroxybutyrate, 209
Dopson, M.
—; See Rzhepishevska, O.I., 559
Dual, J.
—; See Haake, A., 8
Dunn, S.M.
—; See Gevertz, J.L., 346
Edwards, J.S.
—; See Merritt, J., 519
Egli, T.
—; See Looser, V., 69
Ehren, J.
—; See Gass, J., 674
Elezzabi, A.Y.
—; See Kohli, V., 889
Emanuelsson, E.A.C.
—; Baptista, I.I.R.; Mantalaris, A.; Livingston, A.G.: Strain Stability in Biological Systems Treating Recalcitrant Organic Compounds, 843
Etschmann, M.M.W.
—; Sell, D.; Schrader, J.: Production of 2-Phenylethanol and 2-Phenylethylacetate from L-Phenylalanine by Coupling Whole-Cell Biocatalysis with Organophilic Pervaporation, 624
Faid, K.
—; See Bani-Yaghoub, M., 336
Fan, Z.
—; McBride, J.E.; van Zyl, W.H.; Lynd, L.R.: Theoretical Analysis of Selection-Based Strain Improvement for Microorganisms With Growth Dependent Upon Extracytoplasmic Enzymes, 35
Fang, H.H.P.
—; See Zhang, T., 173
Fawzi, N.J.
—; See Pfleger, B.F., 553
Fernández-Lafuente, R.
—; See Fernández-Lorente, G., 773
Fernández-Lorente, G.
—; Ortiz, C.; Segura, R.L.; Fernández-Lafuente, R.; Guisán, J.M.; Palomo, J.M.: Purification of Different Lipases from *Aspergillus niger* by Using a Highly Selective Adsorption on Hydrophobic Supports, 773
Ferret, E.
—; See Guyot, S., 403
Field, J.A.
—; See Karri, S., 810
Field, L.J.
—; See Schroeder, M., 920
Fritsch, M.
—; Starruß, J.; Loesche, A.; Mueller, S.; Bley, T.: Cell Cycle Synchronization of *Cupriavidus necator* by Continuous Phasing Measured via Flow Cytometry, 635
Furstoss, R.
—; See Hilker, I., 702
Gördes, D.
—; See Jürgen, B., 277
Garcia-Ochoa, F.
—; Gomez, E.: Prediction of Gas-Liquid Mass Transfer Coefficient in Sparged Stirred Tank Bioreactors, 761
Gass, J.
—; Ehren, J.; Strohmeier, G.; Isaacs, I.; Khosla, C.: Fermentation, Purification, Formulation, and Pharmacological Evaluation of a Prolyl Endopeptidase From *Myxococcus xanthus*: Implications for Celiac Sprue Therapy, 674
Gayton, M.
—; See Laska, M.E., 308
Gervais, P.
—; See Guyot, S., 403
Gervais, P.
—; See Mille, Y., 479
Gevertz, J.L.
—; Dunn, S.M.; Roth, C.M.: Mathematical Model of Real-Time PCR Kinetics, 346
Ghose, S.
—; Allen, M.; Hubbard, B.; Brooks, C.; Cramer, S.M.: Antibody Variable Region Interactions with Protein A: Implications for the Development of Generic Purification Processes, 665
Gimble, J.M.
—; See Thirumala, S., 372
Glahder, J.
—; Norrild, B.; Persson, M.B.; Persson, B.R.R.: Transfection of *HeLa*-cells With *pEGFP* Plasmid by Impedance Power-Assisted Electroporation, 267
Gomez, E.
—; See Garcia-Ochoa, F., 761
Gonzales, J.
—; See Warnock, D., 831
Gorenflo, V.M.
—; Chow, V.S.; Chou, C.; Piret, J.M.: Optical Analysis of Perfusion Bioreactor Cell Concentration in an Acoustic Separator, 514
Gorenflo, V.M.
—; See Angepat, S., 472
Grimm, L.H.
—; Kelly, S.; Völkerding, I.I.; Krull, R.; Hempel, D.C.: Influence of Mechanical Stress and Surface Interaction on the Aggregation of *Aspergillus niger* Conidia, 879
Guadiz, A.A.E.
—; See Yuki, Y., 803
Guisán, J.M.
—; See Fernández-Lorente, G., 773
Guisasola, A.
—; See Sin, G., 600
Gujarathi, N.P.
—; Linden, J.C.: Oxytetracycline Inactivation by Putative Reactive Oxygen Species Released to Nutrient Medium of *Helianthus annuus* Hairy Root Cultures, 393
Guyot, S.
—; Ferret, E.; Gervais, P.: Responses of *Saccharomyces cerevisiae* to Thermal Stress, 403
Haake, A.
—; Neild, A.; Radziwill, G.; Dual, J.: Positioning, Displacement, and Localization of Cells Using Ultrasonic Forces, 8
Hammes, F.
—; See Looser, V., 69
Hara-Yakoyama, C.
—; See Yuki, Y., 803
Hassan, S.
—; Titchener-Hooker, N.; Willoughby, N.: Determining Particle Density Distribution of Expanded Bed Adsorbents, 663
Hauer, B.
—; See Chen, A.K.-L., 183
Hecker, M.
—; See Jürgen, B., 277
Hecker, M.
—; See Jürgen, B., 299
Heinemann, M.
—; Kümmel, A.; Ruinatscha, R.; Panke, S.: In Silico Genome-Scale Reconstruction and Validation of the *Staphylococcus aureus* Metabolic Network, 850
Hempel, D.C.
—; See Grimm, L.H., 879
Hempel, D.C.
—; See Hille, A., 614
Hernánz, D.
—; See León, R., 695
Hewitt, C.J.
—; See da Silva, T.L., 568
Hilker, I.
—; Wohlgemuth, R.; Alphand, V.; Furstoss, R.: Microbial Transformations 59: First Kilogram Scale Asymmetric Microbial Baeyer-Villiger Oxidation with Optimized Productivity Using a Resin-Based in situ SFPR Strategy, 702
Hille, A.
—; Neu, T.R.; Hempel, D.C.; Horn, H.: Oxygen Profiles and Biomass Distribution in Biopellets of *Aspergillus niger*, 614
Horn, H.
—; See Hille, A., 614

Hsu, S.-h.
—; Chen, C.-Y.; Lu, P.S.; Lai, C.-S.; Chen, C.-J.: Oriented Schwann Cell Growth on Microgrooved Surfaces, 579
Hubbard, B.
—; See Ghose, S., 665
Hughey, R.
—; See Dasgupta, A., 257
Ierapetritou, M.G.
—; See Sharma, N.S., 321
Isaacs, I.
—; See Gass, J., 674
Ito, T.
—; See Savichtcheva, O., 356
Jin, Y.
—; Veiga, M.C.; Kennes, C.: Effects of pH, CO_2, and Flow Pattern on the Autotrophic Degradation of Hydrogen Sulfide in a Biotrickling Filter, 462
Johansson, L.
—; Lindskog, A.; Silfversparre, G.; Cimander, C.; Nielsen, K.F.; Lidén, G.: Shikimic Acid Production by a Modified Strain of *E. coli* (W3110.shik1) Under Phosphate-Limited and Carbon-Limited Conditions, 541
Jürgen, B.
—; Barken, K.B.; Tobisch, S.; Pioch, D.; Wümpelmann, M.; Hecker, M.; Schweder, T.: Application of an Electric DNA-Chip for the Expression Analysis of Bioprocess-Relevant Marker Genes of *Bacillus subtilis*, 299
Jürgen, B.
—; Tobisch, S.; Wümpelmann, M.; Gördes, D.; Koch, A.; Thurow, K.; Albrecht, D.; Hecker, M.; Schweder, T.: Global Expression Profiling of *Bacillus subtilis* Cells During Industrial-Close Fed-Batch Fermentations With Different Nitrogen Sources, 277
Kalbfuß, B.
—; See Wickramasinghe, S.R., 199
Kamei, D.T.
—; Lao, B.J.; Ricci, M.S.; Deshpande, R.; Xu, H.; Tidor, B.; Lauffenburger, D.A.: Quantitative Methods for Developing Fc Mutants With Extended Half-Lives, 748
Kan, E.
—; Deshusses, M.A.: Continuous Operation of Foamed Emulsion Bioreactors Treating Toluene Vapors, 364
Kappler, J.W.
—; See Boder, E.T., 485
Karri, S.
—; Sierra-Alvarez, K.; Field, J.A.: Zero Valent Iron as an Electron-Donor for Methanogenesis and Sulfate Reduction in Anaerobic Sludge, 810
Kaspar, B.
—; See Lee, G.K., 24
Keasling, J.D.
—; See Pfleger, B.F., 553
Keenan, B.G.
—; See Leungsakul, T., 416
Keller, M.
—; See Looser, V., 69
Kelly, S.
—; See Grimm, L.H., 879
Kennes, C.
—; See Jin, Y., 462
Kent, C.A.
—; See da Silva, T.L., 568
Khosla, C.
—; See Gass, J., 674
Kim, M.G.
—; See Park, J.P., 160
Kim, Y.K.
—; Shin, H.S.; Tomiya, N.; Lee, Y.C.; Betenbaugh, M.J.; Cha, H.J.: Production and *N*-Glycan Analysis of Secreted Human Erythropoietin Glycoprotein in Stably Transfected *Drosophila* S2 Cells, 452
Kinealy, K.
—; See Warnock, D., 831
Kita, Y.
—; See Ogawa, Y., 865
Kiyono, H.
—; See Yuki, Y., 803
Koch, A.
—; See Jürgen, B., 277
Kohli, V.
—; Acker, J.P.; Elezzabi, A.Y.: Reversible Permeabilization Using High-Intensity Femtosecond Laser Pulses: Applications to Biopreservation, 889
Kovar, K.
—; See Looser, V., 69
Krambeck, F.J.
—; Betenbaugh, M.J.: A Mathematical Model of N-Linked Glycosylation, 711
Krull, R.
—; See Grimm, L.H., 879
Kulys, J.
—; Bratkovskaja, I.; Vidziunaite, R.: Laccase-Catalysed Iodide Oxidation in Presence of Methyl Syringate, 124
Kümmel, A.
—; See Heinemann, M., 850
Lai, C.-S.
—; See Hsu, S.-h., 579
Lancin, P.
—; See Dasgupta, A., 257
Lao, B.J.
—; See Kamei, D.T., 748
Larue, L.
—; See Dasgupta, A., 257
Laska, M.E.
—; Brooks, R.P.; Gayton, M.; Pujar, N.S.: Robust Scale-Up of Dead End Filtration: Impact of Filter Fouling Mechanisms and Flow Distribution, 308
Lauffenburger, D.A.
—; See Kamei, D.T., 748
Lauritsen, F.R.
—; See Andersen, A.Z., 740
Lawrie, G.
—; See Leung, A., 45
Le Pecq, J.-B.
—; See Patel, S., 238
León, R.
—; Vila, M.; Hernánz, D.; Vílchez, C.: Production of Phytoene by Herbicide-Treated Microalgae *Dunaliella Bardawil* in two-Phase Systems, 695
Lee, G.K.
—; Maheshri, N.; Kaspar, B.; Schaffer, D.V.: PEG Conjugation Moderately Protects Adeno-Associated Viral Vectors Against Antibody Neutralization, 24
Lee, J.
—; See Park, J.-S., 250
Lee, J.
—; See Vardar, G., 652
Lee, K.-B.
—; See Park, J.P., 160
Lee, S.J.
—; See Park, J.P., 160
Lee, S.Y.
—; See Park, J.P., 160
Lee, Y.C.
—; See Kim, Y.K., 452
Lee, Z.-W.
—; See Park, J.P., 160
Legge, R.L.
—; See Clifford, J.S., 231
Lehmann, J.
—; See Schroeder, M., 920
Lemos, P.C.
—; See Dias, J.M.L., 209
Leung, A.
—; Ramaswamy, Y.; Munro, P.; Lawrie, G.; Nielsen, L.; Trau, M.: Emulsion Strategies in the Microencapsulation of Cells: Pathways to Thin Coherent Membranes, 45
Leungsakul, T.
—; Keenan, B.G.; Yin, H.; Smets, B.F.; Wood, T.K.: Saturation Mutagenesis of 2,4-DNT Dioxygenase of *Burkholderia* sp. Strain DNT for Enhanced Dinitrotoluene Degradation, 416
Liao, J.
—; See Batorsky, A., 492
Lidén, G.
—; See Johansson, L., 541
Linden, J.C.
—; See Gujarathi, N.P., 393
Lindskog, A.
—; See Johansson, L., 541
Liu, Y.
—; See Zhang, T., 173
Liu, Y.-S.
—; See Yang, L., 685
Livingston, A.G.
—; See Emanuelsson, E.A.C., 843
Loesche, A.
—; See Fritsch, M., 635
Looser, V.
—; Hammes, F.; Keller, M.; Berney, M.; Kovar, K.; Egli, T.: Flow-Cytometric Detection of Changes in the Physiological State of *E. coli* Expressing a Heterologous Membrane Protein During Carbon-Limited Fedbatch Cultivation, 69
Lou, I.
—; de los Reyes III, F.L.: Substrate Uptake Tests and Quantitative FISH Show Differences in Kinetic Growth of Bulking and Non-Bulking Activated Sludge, 729
Lu, P.S.
—; See Hsu, S.-h., 579
Lund, A.W.
—; See Batorsky, A., 492

Lynd, L.R.
—; See Fan, Z., 35
—; See Samorski, M., 61
Maheshri, N.
—; See Lee, G.K., 24
Mantalaris, A.
—; See Emanuelsson, E.A.C., 843
Marrack, P.C.
—; See Boder, E.T., 485
Marten, M.R.
—; See Raman, B., 384
Martin, B.D.
—; See Soto, C.M., 934
Maskow, T.
—; Stockar, U.v.: How Reliable are Thermodynamic Feasibility Statements of Biochemical Pathways?, 223
Mastrogiacomo, M.
—; See Beltrame, F., 189
McBride, J.E.
—; See Fan, Z., 35
Mealing, G.
—; See Bani-Yaghoub, M., 336
Mehta-Damani, A.
—; See Patel, S., 238
Merritt, J.
—; Butz, J.A.; Ogunnaike, B.A.; Edwards, J.S.: Parallel Analysis of Mutant Human Glucose 6-Phosphate Dehydrogenase in Yeast Using PCR Colonies, 519
Mille, Y.
—; Beney, L.; Gervais, P.: Compared Tolerance to Osmotic Stress in Various Microorganisms: Towards a Survival Prediction Test, 479
Millitzer, M.
—; Wenzig, E.; Peukert, W.: Process Modeling of In Situ-Adsorption of a Bacterial Lipase, 789
Miyoshi, S.
—; See Ogawa, Y., 865
Moghe, P.V.
—; See Dasgupta, A., 257
Monette, R.
—; See Bani-Yaghoub, M., 336
Moon, H.M.
—; See Park, J.-S., 250
Morikawa, N.
—; See Ogawa, Y., 865
Mota, M.
—; See Pereira, M.A., 15
Mueller, S.
—; See Fritsch, M., 635
Munro, P.
—; See Leung, A., 45
Muthuvijayan, V.
—; See Raman, B., 384
Müller-Newen, G.
—; See Samorski, M., 61
Nahmias, Y.
—; Schwartz, R.E.; Verfaillie, C.M.; Odde, D.J.: Laser-Guided Direct Writing for Three-Dimensional Tissue Engineering, 129
Nakhla, G.
—; See Patel, A., 427
Nandakumar, M.P.
—; See Raman, B., 384
Naumann, T.A.
—; Savinov, S.N.; Benkovic, S.J.: Engineering an Affinity Tag for Genetically Encoded Cyclic Peptides, 820
Neild, A.
—; See Haake, A., 8
Neu, T.R.
—; See Hille, A., 614
Nie, Y.
—; de Pablo, J.J.; Palecek, S.P.: Platelet Cryopreservation Using a Trehalose and Phosphate Formulation, 79
Niebruegge, S.
—; See Schroeder, M., 920
Nields, A.W.
—; See Boder, E.T., 485
Nielsen, K.F.
—; See Johansson, L., 541
Nielsen, L.
—; See Leung, A., 45
Nishimura, S.
—; See Ogawa, Y., 865
Norrild, B.
—; See Glahder, J., 267
Nussinovitch, A.
—; See Zohar-Perez, C., 54
O'Sullivan, C.A.
—; Burrell, P.C.; Clarke, W.P.; Blackall, L.L.: Structure of a Cellulose Degrading Bacterial Community During Anaerobic Digestion, 871
Odde, D.J.
—; See Yaakov, N., 129
Ogawa, Y.
—; Morikawa, N.; Ohkubo-Suzuki, A.; Miyoshi, S.; Arakawa, H.; Kita, Y.; Nishimura, S.: An Epoch-Making Application of Discharge Plasma Phenomenon to Gene-Transfer, 865
Ogunnaike, B.A.
—; See Merritt, J., 519
Ohkubo-Suzuki, A.
—; See Ogawa, Y., 865
Okabe, S.
—; See Savichtcheva, O., 356
Okano, T.
—; See Wada, K.-I., 410
Okayama, N.
—; See Savichtcheva, O., 356
Oleszkiewicz, J.A.
—; See Rezania, B., 900
Oliveira, R.
—; See Dias, J.M.L., 209
Olsen, L.F.
—; See Andersen, A.Z., 740
Ortiz, C.
—; See Fernández-Lorente, G., 773
Palecek, S.P.
—; See Nie, Y., 79
Palomo, J.M.
—; See Fernández-Lorente, G., 773
Panke, S.
—; See Heinemann, M., 850
Park, J.-S.
—; Seo, H.-S.; Yum, J.-S.; Moon, H.M.; Lee, J.: The Influence of N-Glycosylation and C-Terminal Sequence on Secretion of HBV Large Surface Antigen From *S. cerevisiae*, 250
Park, J.P.
—; Lee, K.-B.; Lee, S.J.; Park, T.J.; Kim, M.G.; Chung, B.H.; Lee, Z.-W.; Choi, I.S.; Lee, S.Y.: Micropatterning Proteins on Polyhydroxyalkanoate Substrates by Using the Substrate Binding Domain as a Fusion Partner, 160
Park, T.J.
—; See Park, J.P., 160
Patel, A.
—; Nakhla, G.; Zhu, J.: Detachment of Multi Species Biofilm in Circulating Fluidized Bed Bioreactor, 427
Patel, S.
—; Mehta-Damani, A.; Shu, H.; Le Pecq, J.-B.: An Analysis of Variability in the Manufacturing of Dexosomes: Implications for Development of an Autologous Therapy, 238
Patterson, C.H.
—; See Soto, C.M., 934
Pecota, D.C.
—; Da Silva, N.A.: Evaluation of the Tetracycline Promoter System for Regulated Gene Expression in *Kluyveromyces marxianus*, 117
Pereira, M.A.
—; Pires, O.C.; Mota, M.; Alves, M.M.: Anaerobic Biodegradation of Oleic and Palmitic Acids: Evidence of Mass Transfer Limitations Caused by Long Chain Fatty Acid Accumulation onto the Anaerobic Sludge, 15
Persson, B.R.R.
—; See Glahder, J., 267
Persson, M.B.
—; See Glahder, J., 267
Peukert, W.
—; See Millitzer, M., 789
Pfleger, B.F.
—; Fawzi, N.J.; Keasling, J.D.: Optimization of DsRed Production in *Escherichia Coli*: Effect of Ribosome Binding Site Sequestration on Translation Efficiency, 553
Pioch, D.
—; See Jürgen, B., 299
Pires, O.C.
—; See Pereira, M.A., 15
Piret, J.M.
—; See Angepat, S., 472
Piret, J.M.
—; See Gorenflo, V.M., 514
Plopper, G.E.
—; See Batorsky, A., 492
Pujar, N.S.
—; See Laska, M.E., 308
Py, C.
—; See Bani-Yaghoub, M., 336
Qian, J.
—; See Warnock, D., 831
Quarto, R.
—; See Beltrame, F., 189
Radziwill, G.
—; See Haake, A., 8
Raman, B.
—; Nandakumar, M.P.; Muthuvijayan, V.; Marten, M.R.: Proteome Analysis to Assess

Physiological Changes in *Escherichia coli* Grown Under Glucose-Limited Fed-Batch Conditions, 384
Ramaswamy, Y.
—; See Leung, A., 45
Reichl, U.
—; See Wickramasinghe, S.R., 199
Reis, A.
—; See da Silva, T.L., 568
Reis, M.A.M.
—; See Dias, J.M.L., 209
Rezania, B.
—; Cicek, N.; Oleszkiewicz, J.A.: Kinetics of Hydrogen-Dependent Denitrification Under Varying pH and Temperature Conditions, 900
Ricci, M.S.
—; See Kamei, D.T., 748
Rogers, P.L.
—; See Chen, A.K.-L., 183
Rosche, B.
—; See Chen, A.K.-L., 183
Roseiro, J.C.
—; See da Silva, T.L., 568
Roth, C.M.
—; See Gevertz, J.L., 346
Ruediger, M.
—; See Schroeder, M., 920
Ruinatscha, R.
—; See Heinemann, M., 850
Rzhepishevska, O.I.
—; Börje Lindström, E.; Tuovinen, O.H.; Dopson, M.: Bioleaching of Sulfidic Tailing Samples with a Novel, Vacuum-Positive Pressure Driven Bioreactor, 559
Samorski, M.
—; Müller-Newen, G.; Büchs, J.: Quasi-Continuous Combined Scattered Light and Fluorescence Measurements: A Novel Measurement Technique for Shaken Microtiter Plates, 61
San, K.-Y.
—; See Shalel-Levanon, S., 147
Savichtcheva, O.
—; Okayama, N.; Ito, T.; Okabe, S.: Application of a Direct Fluorescence-Based Live/Dead Staining Combined with Fluorescence in situ Hybridization for Assessment of Survival Rate of *Bacteroides Spp.* in Drinking Water, 356
Savinov, S.N.
—; See Naumann, T.A., 820
Scaglione, S.
—; See Beltrame, F., 189
Schaffer, D.V.
—; See Lee, G.K., 24
Schrader, J.
—; See Etschmann, M.M.W., 624
Schroeder, M.
—; Niebruegge, S.; Werner, A.; Willbold, E.; Burg, M.; Ruediger, M.; Field, L.J.; Lehmann, J.; Zweigerdt, R.: Differentiation and Lineage Selection of Mouse Embryonic Stem Cells in a Stirred Bench Scale Bioreactor With Automated Process Control, 920
Schwartz, R.E.
—; See Yaakov, N., 129
Schweder, T.
—; See Jürgen, B., 277
Schweder, T.
—; See Jürgen, B., 299
Secundo, F.
—; Carrea, G.: Mono- and Disaccharides Enhance the Activity and Enantioselectivity of *Burkholderia cepacia* Lipase in Organic Solvent but Do Not Significantly Affect its Conformation, 438
Segura, R.L.
—; See Fernández-Lorente, G., 773
Sell, D.
—; See Etschmann, M.M.W., 624
Seo, H.-S.
—; See Park, J.-S., 250
Seo, J.H.
—; Yeo, J.S.; Cha, H.J.: Baculoviral Polyhedrin–*Bacillus thuringiensis* Toxin Fusion Protein: A Protein-Based Bio-Insecticide Expressed in *Escherichia coli*, 166
Serafim, L.S.
—; See Dias, J.M.L., 209
Shalel-Levanon, S.
—; San, K.-Y.; Bennett, G.N.: Effect of ArcA and FNR on the Expression of Genes Related to the Oxygen Regulation and the Glycolysis Pathway in *Escherichia coli* Under Microaerobic Growth Conditions, 147
Sharma, N.S.
—; Ierapetritou, M.G.; Yarmush, M.L.: Novel Quantitative Tools for Engineering Analysis of Hepatocyte Cultures in Bioartificial Liver Systems, 321
Shi, Q.-H.
—; Zhou, X.; Sun, Y.: A Novel Superporous Agarose Medium for High-Speed Protein Chromatography, 643
Shin, H.S.
—; See Kim, Y.K., 452
Shu, H.
—; See Patel, S., 238
Sierra-Alvarez, R.
—; See Karri, S., 810
Sikorska, M.
—; See Bani-Yaghoub, M., 336
Silfversparre, G.
—; See Johansson, L., 541
Sin, G.
—; Guisasola, A.; De Pauw, D.J.W.; Baeza, J.A.; Carrera, J.; Vanrolleghem, P.A.: A New Approach for Modelling Simultaneous Storage and Growth Processes for Activated Sludge Systems Under Aerobic Conditions, 600
Smets, B.F.
—; See Leungsakul, T., 416
Soto, C.M.
—; Patterson, C.H.; Charles, P.T.; Martin, B.D.; Spector, M.S.: Immobilization and Hybridization of DNA in a Sugar Polyacrylate Hydrogel, 934
Spector, M.S.
—; See Soto, C.M., 934
Spilimbergo, S.
—; Bertucco, A.; Basso, G.; Bertoloni, G.: Determination of Extracellular and Intracellular pH of *Bacillus subtilis* Suspension Under CO_2 Treatment, 447
Starruß, J.
—; See Fritsch, M., 635
Stegemann, J.P.
—; See Batorsky, A., 492
Stevenson, T.
—; See Warnock, D., 831
Stockar, U.v.
—; See Maskow, T., 223
Strohmeier, G.
—; See Gass, J., 674
Sun, M.
—; See Yue, C., 1
Sun, Y.
—; See Shi, Q.-H., 643
Taniguchi, A.
—; See Wada, K.-I., 410
Tao, Y.
—; See Vardar, G., 652
Thirumala, S.
—; Gimble, J.M.; Devireddy, R.V.: Transport Phenomena During Freezing of Adipose Tissue Derived Adult Stem Cells, 372
Thom, V.
—; See Wickramasinghe, S.R., 199
Thurow, K.
—; See Jürgen, B., 277
Tidor, B.
—; See Kamei, D.T., 748
Titchener-Hooker, N.
—; See Hassan, S., 659
Tobisch, S.
—; See Jürgen, B., 277
Tobisch, S.
—; See Jürgen, B., 299
Tom, E.M.
—; See Weller, G.E.R., 780
Tomiya, N.
—; See Kim, Y.K., 452
Trau, M.
—; See Leung, A., 45
Tremblay, R.
—; See Bani-Yaghoub, M., 336
Tuovinen, O.H.
—; See Rzhepishevska, O.I., 559
Udaka, S.
—; See Yuki, Y., 803
Vílchez, C.
—; See León, R., 695
Völkerding, I.I.
—; See Grimm, L.H., 879
Valastro, C.
—; See Beltrame, F., 189
van Zyl, W.H.
—; See Fan, Z., 35
Vanrolleghem, P.A.
—; See Sin, G., 600
Vardar, G.
—; Tao, Y.; Lee, J.; Wood, T.K.: Alanine 101 and Alanine 110 of the Alpha Subunit of *Pseudomonas stutzeri* OX1 Toluene-*o*-Xylene Monooxygenase Influence the Regiospecific Oxidation of Aromatics, 652

Veiga, M.C.
—; See Jin, Y., 462
Veraitch, F.S.
—; Al-Rubeai, M.: Enhanced Cell Growth in NS0 Cells Expressing Aminoglycoside Phosphotransferase is Associated with Changes in Metabolism, Productivity, and Apoptosis, 589
Verfaillie, C.M.
—; See Yaakov, N., 129
Vidziunaite, R.
—; See Kulys, J., 124
Vila, M.
—; See León, R., 695
Villanueva, F.S.
—; See Weller, G.E.R., 780
Viti, F.
—; See Beltrame, F., 189
Voicu, R.
—; See Bani-Yaghoub, M., 336
Voogt, J.N.
—; Blanch, H.W.: Separation of Polyunsaturated Fatty Acids by Selective Inclusion in Guanidinium-1,5-Naphthalenedisulfonate-2-Methoxyethanol Host Networks, 532
Wada, K.-I.
—; Taniguchi, A.; Xu, L.; Okano, T.: Rapid and Highly Sensitive Detection of Cadmium Chloride Induced Cytotoxicity Using the HSP70B′ Promoter in Live Cells, 410
Wagner, W.R.
—; See Weller, G.E.R., 780
Warnock, D.
—; Bai, X.; Autote, K.; Gonzales, J.; Kinealy, K.; Yan, B.; Qian, J.; Stevenson, T.; Zopf, D.; Bayer, R.J.: In Vitro Galactosylation of Human IgG at 1 kg Scale Using Recombinant Galactosyltransferase, 831
Weller, G.E.R.
—; Villanueva, F.S.; Tom, E.M.; Wagner, W.R.: Targeted Ultrasound Contrast Agents: In Vitro Assessment of Endothelial Dysfunction and Multi-Targeting to ICAM-1 and Sialyl Lewis^x, 780
Wenzig, E.
—; See Millitzer, M., 789
Werner, A.
—; See Schroeder, M., 920
Wickramasinghe, S.R.
—; Kalbfuß, B.; Zimmermann, A.; Thom, V.; Reichl, U.: Tangential Flow Microfiltration and Ultrafiltration for Human Influenza A Virus Concentration and Purification, 199
Willbold, E.
—; See Schroeder, M., 920
Willoughby, N.
—; See Hassan, S., 659
Wohlgemuth, R.
—; See Hilker, I., 702
Wood, T.K.
—; See Leungsakul, T., 416
Wood, T.K.
—; See Vardar, G., 652
Wümpelmann, M.
—; See Jürgen, B., 277
Wümpelmann, M.
—; See Jürgen, B., 299
Xu, H.
—; See Kamei, D.T., 748
Xu, L.
—; See Wada, K.-I., 410
Yan, B.
—; See Warnock, D., 831
Yang, L.
—; Banada, P.P.; Liu, Y.-S.; Bhunia, A.K.; Bashir, R.: Conductivity and pH Dual Detection of Growth Profile of Healthy and Stressed *Listeria Monocytogenes*, 685
Yang, S.-T.
—; See Bai, Y., 137
Yarmush, M.L.
—; See Sharma, N.S., 321
Yeo, J.S.
—; See Seo, J.H., 166
Yin, H.
—; See Leungsakul, T., 416
Yu, Z.
—; See Yue, C., 1
Yue, C.
—; Sun, M.; Yu, Z.: Improved Production of Insecticidal Proteins in *Bacillus thuringiensis* Strains Carrying an Additional *cry1C* Gene in Its Chromosome, 1
Yuki, Y.
—; Hara-Yakoyama, C.; Guadiz, A.A.E.; Udaka, S.; Kiyono, H.; Chatterjee, S.: Production of a Recombinant Cholera Toxin B subunit-Insulin B chain Peptide Hybrid Protein by *Brevibacillus choshinensis* Expression System as a Nasal Vaccine Against Autoimmune Diabetes, 803
Yum, J.-S.
—; See Park, J.-S., 250
Zhang, T.
—; Liu, Y.; Fang, H.H.P.: Effect of pH Change on the Performance and Microbial Community of Enhanced Biological Phosphate Removal Process, 173
Zhou, X.
—; See Shi, Q.-H., 643
Zhu, J.
—; See Patel, A., 427
Zimmerman, W.B.
—; Metabolic Pathways Reconstruction by Frequency and Amplitude Response to Forced Glycolytic Oscillations in Yeast, 91
Zimmermann, A.
—; See Wickramasinghe, S.R., 199
Zohar-Perez, C.
—; Chet, I.; Nussinovitch, A.: Mutual Relationships Between Soils and Biological Carrier Systems, 54
Zopf, D.
—; See Warnock, D., 831
Zweigerdt, R.
—; See Schroeder, M., 920

Biotechnology and Bioengineering

Subject Index to Volume 92

AAV, 24
acetogens, 900
Acidithiobacillus, 559
acidophiles, 559
activated sludge modelling, 600
activity, 438
adipose derived stem cells, 372
adsorbent resin, 702
aerobic COD storage, 209
agarose gel, 643
agitation intensity, 568
air pollution control, 364
alginate beads, 54
aminoglycoside phosphotransferase, 589
anaerobic, 810
anaerobic digestion, 871
antibodies, 665
antibody, 831
antibody effector function, 831
antioxidant enzymes, 393
APA membranes, 45
apoptosis, 589
Aspergillus niger, 614
asymmetric Baeyer-Villiger oxidation, 702
at-line monitoring, 299
autoimmune diseases, 803
autologous therapy, 238
autotrophic denitrification, 900
autotrophy, 462

β-glucuronidase, 117
Bacillus licheniformis, 568
Bacillus subtilis, 277, 299, 447
Bacillus thuringiensis, 1
Bacillus thuringiensis toxin, 166
bacteria, 479
bacterial cell cycle synchrony, 635
bacteroides, 356
baculoviral polyhedrin, 166
baffles, 907
Bcl-2, 589
bicyclo[3.2.0]hept-2-en-6-one, 702
biocontrol, 54
biodegradation, 364, 843
biofilm, 427
biofilter, 364
bioimpedance spectrometry, 267
bioleaching, 559
biologically activated foam, 364
biomass distribution, 614
biopreservation, 889
bioprocess control, 299
bioreactor agitation, 920
bioremediation, 810
biotransformation, 137, 183
bone formation, 189
brain, 336

C-terminus of S antigen, 250
cadmium chloride, 410
calibration, 189
cancer vaccine, 238
candida utilis, 183
carbon limitation, 541
cardiomyocytes, 920
carotenoid, 695
cartilage tissue engineering, 907
celiac Sprue, 674
cell adhesion molecules, 780
cell aggregation, 568
cell cycle, 589
cell membrane, 267
cell physiology, 541
cell retention, 514
cell spheroids, 45
cell survival, 267
cell-level model, 748
cellulase, 35
cellulose, 871
chemostat, 541
Chinese hamster ovary, 514
chitinolytic activity, 54
CHO, 472, 514
CHO cells, 711
cholera toxin b-subunit, 803
chromatography, 643
chromosomal integration, 1
circulating fluidized bed bioreactor, 427
class II MHC, 485
Clostridium, 871
CLSM, 614
CO_2, 447, 462, 740
collagen, 492, 579
conductivity, 685
confocal laser scanning microscopy, 643
confocal microscopy, 934
conjugation, 24
contact angle, 231
continuous culture, 35, 372, 568
continuous phasing, 635
cry1C gene, 1
cryobiology, 889
cryopreservation, 79, 889
cryoprotectant, 889
cultivation, 69
Cupriavidus necator, 635
cyclic peptide, 820
cytotoxicity, 410

2,4-dioxygenase, 416
DAPase, 501
data assimilation, 91
dehydration, 479
depth filtration, 308
detachment rate coefficient, 427
detection, 685
dexosomes, 238
DGGE, 559
diabetes, 803
differential scanning clorimeter, 372
dinitrotoluene, 416
direct viable counts, 356
dissolved oxygen, 907
DNA hybridization, 934
DNA immobilization, 934
Drosophila S2 cells, 452
Dunaliella bardawil, 695

E-cadherin, 257
EBPR, 173
E. coli, 69
electric DNA-chip, 299
electro-pulsation, 267
electroporation, 865
elemental iron, 810
elemental metal, 810
elicitor, 393
elution pH, 665
embryoid bodies, 920
embryonic stem cells, 257, 920
emulsion formation, 45
enantioselectivity, 438, 773
endothelial cells, 780
engineered bone tissue, 189
enhancement factor, 761
enteric coating, 674
enzyme immobilization, 231
enzyme overproduction, 183
Escherichia coli, 166, 384, 541
ethidium bromide, 69
exosomes, 238
expanded bed adsorption, 501, 663
extracellular matrix, 492
extracytoplasmic, 35

Factor Xa, 501
Fc, 748
Fe^0, 810
"Feast" and "famine", 209
fed-batch fermentation, 277, 384
fedbatch cultivation, 69
femotsecond, 889
fermentative genes, 147
fibrous bed bioreactor, 137
filter capacity, 308
FISH, 356, 843
flavor, 624
flow cytometry, 69, 568, 635
flow pattern, 462
fluorescence, 61
fluorescence in situ hybridisation, 871
fluorescent probe 5(and 6-)-carboxyfluorescein ester (cFSE), 447
formate dehydrogenase, 137
fouling, 308
fourier transform infrared spectroscopy, 438
frequency response, 91
functional complementation, 519
fusion inclusion body, 166

G418, 589
GAO, 173
gas-liquid systems, 761
gene deletion, 850
gene expression, 346
genetic selection, 820

gene transfer, 865
genome-scale metabolic network, 850
gliadin, 674
glucose limiting, 568
glucose 6-phosphate dehydrogenase, 519
gluten, 674
glycoengineering, 831
glycoform, 711
glycolysis, 91, 223
glycoprotein, 452
glycoprotein remodeling, 831
glycosylation, 831
glycosyltransferase, 831
growth cone, 336
growth rate, 729
guidance, 336
gus gene, 117

handling, 8
hepatic differentiation, 257
hepatocytes, 321
heterodimer expression in yeast, 485
high throughput sequencing, 519
HSP70B′ promoter, 410
human erythropoietin, 452
human influenza A virus, 199
hydrogel, 934
hydrogen sulfide, 462
hydrogen-bonded networks, 532
hydrophobicity, 231

immobilization, 137
immobilized metal affinity chromatography, 501
in situ product removal, 624
in situ-adsorption, 789
in situ-product removal, 789
in-silico, 223
inactivation, 447
inclusion compounds, 532
inflammation, 780
insulin peptide, 803
integrated bioprocess, 624
integrative recombinant, 1
intein, 820
interfacial activation, 231
interfacial activation with hydrophobic supports, 773
intracellular and extracellular pH, 447
iodide, 124, 128

kinetics, 900
kinetics models reconstruction, 91
kluyveromyces marxianus, 117

L-HBVsAg, 250
laccase, 128, 124
lactate, 147
lactate dehydrogenase, 137
lactic acid, 223
lactic acid bacteria, 740
laminin, 579
LCFA, 15
Lepidoptera-specific activity, 1
linear programming optimization, 321
lipase, 789
lipase affinity by hydrophobic supports, 773
lipase from *Burkholderia cepacia*, 438
lipase purification, 773
Listeria monocytogenes, 685
live/dead staining, 356
liver tissue engineering, 129

maintenance coefficient, 729
mammalian cell culture, 472, 514, 711
manipulation, 8
marker genes, 277
mass transport, 614
mathematical model, 711
mathematical modeling, 209, 346
maturation, 257
membrane, 479
membrane inlet mass spectrometry, 740
mesenchymal stem cells, 492
metabolic engineering, 711
metabolic flux analysis, 321
metabolic modeling, 729
metabolic pathways, 91
metabolism, 589
metallic iron, 810
methane, 871
methanogenic activity, 15
methoxyphenol, 652
methyl jasmonate, 393
methyl syringate, 128
microaerobic conditions, 147
microbubbles, 780
microcontact printing, 160
microencapsulation, 45
microfiltration, 199
microgroove, 579
micropatterning, 129
microtiter plate, 61
mineral tailings, 559
mixed cultures, 209
mixing time, 907
MLS-pulse sequence, 267
molecular modeling, 748
molecular phylogeny, 559

N-glycan structure, 452
N-glycosylation, 250
N-linked glycosylation, 711
NADH, 61
naphthalene, 652
neo, 589
neurite, 336
neutralizing antibody, 24
neutralizing epitope, 24
nitrite, 900
nitrogen limiting, 568
nitrogen source, 277
nonlinear dynamics, 91
NS0 myeloma cells, 589
nutrient limitation, 384

oligosaccharides, 711
omega-3 fatty acids, 532
on-line, 514
on-line monitoring, 61
optical forcess, 129
optimal experimental design (OED), 600
organophilic pervaporation, 624
osteoconductive grafts, 189
oxidative burst, 393
oxygen microelectrode, 614
oxytetracyline, 393

2-phenylethanol, 624
2-phenylethylacetate, 624
pall rings, 462
PAO, 173
particle density distribution, 663
PCR efficiency, 346
PEG, 24
peptide loading, 485
perfusion, 472, 514
permeabilization, 267, 889
permeable reactive barriers, 810
pH, 173, 462, 685, 740, 900
PHA, 160
phosphate, 79
phosphate limitation, 541
phosphate removal, 173
physical properties, 54
physiological state, 69
phytoene, 695
phytoremediation, 393
plasma, 865
platelets, 79
PLGA, 579
polonies, 519
polyethylene glycol, 24
polyhydroxyalkanoates, 160
polyhydroxybutyrate, 209
polyunsaturated fatty acids, 532
positioning, 8
practical identifiability, 600
prediction mass transfer coefficient, 761
predictions, 223
predictive, 479
primary cells, 865
process analysis, 238
process control, 920
process modeling, 789
process optimization, 472
process variability, 238
prolyl endopeptidase, 674
propidium iodide, 69
protein, 643, 789
protein A chromatography, 665
protein engineering, 485
protein-based bio-insecticide, 166
proteome, 277
proteome analysis, 384
pyruvate decarboxylase, 183
pyruvate metabolism, 147

QRT-PCR, 147
quantitative FISH, 729

R-2-hydroxy-4-phenylbutyric acid, 137
R-phenylacetylcarbinol, 183
radial flow chamber, 780
Ralstonia eutropha, 635
reaction Gibbs energy, 223
reactive oxygen species, 393
recalcitrant compounds, 843
recombinant membrane protein, 69
regiospecific oxidation, 652
removal of polyhistidine tails, 501
reporter gene assay, 410
residence time distribution (RTD), 907
resin-based in situ SFPR, 702
respirometry, 600
RNA isolation, 299

16S rDNA, 173
saturation mutagenesis, 416
saturation mutagenesis cresols, 652
scale-up, 308, 920
scattered light, 61, 514
schwann cells, 579
secondary structure, 438
secretion efficiency, 250
selection, 35
separator, 514
serratia marcescens, 54
shear, 907
shikimic acid, 541
small colony variant, 850
sol–gel engineering, 231
solid porogenic agent, 643
specific microbial activity, 427
Staphylococcus aureus, 850
starvation, 384
stationary phase, 384, 643
stirred tank bioreactors, 761
storage metabolism, 600
strain stability, 843
stressed bacteria, 685
stromal vascular fraction, 372
substrate binding domain, 160
substrate uptake, 729
sugars, 438, 889
superpore, 643
surface plasmon resonance, 160
survival rate, 356
synthetic neural network, 336
systems biology, 91

t-PA, 472
tet-promoter, 117
tetracycline-regulatable promoter, 117
therapeutic half-lives, 748
thermodynamic feasibility, 223
thermogravimetric analysis, 231
tissue engineering, 492
tolerance, 479
toluene, 364
toluene monooxygenase, 652
trafficking assay, 748
transcriptome, 277
transient, 472
transitional pH, 183
transport limitations, 15
trehalose, 79
triiodide, 128, 124
two-phase system, 695

ultrafiltration, 199
ultrashort laser pulses, 889
ultrasound, 8, 780

vaccine, 803
variable region interactions, 665
viability, 568
viral vector, 24
virus concentration, 199
virus purification, 199
VOC control, 364

water transport, 372
whole cell process, 702

X-ray imaging, 189
xylene, 652
xylene monooxygenase, 69

yeast display, 485
yeast promoter, 117
yeasts, 479
YFP, 61
yield, 729